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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/328,939 06/09/99 FUJIMURA

S 18867-000410

EXAMINER
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AHMED, S

ART UNIT	PAPER NUMBER
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1746

DATE MAILED: 10/02/01

020350 IM52/1002  
TOWNSEND AND TOWNSEND AND CREW  
TWO EMBARCADERO CENTER  
EIGHTH FLOOR  
SAN FRANCISCO CA 94111-3834

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

**Office Action Summary**

Application No.

09/328,939

Applicant(s)

FUJIMURA ET AL.

Examiner

Shamim Ahmed

Art Unit

1746

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 July 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-3,5,6,9-11,21 and 22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,9-11,21 and 22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 5) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Application/Control Number: 09/328,939  
Art Unit: 1746

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-3, 5-6, and 9-11 have been considered but are moot in view of the new ground(s) of rejection.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

3. Claims 1-3, 5-6, 9-11 and 21-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Moslehi (5,403,434).

Moslehi teaches a dry cleaning process, wherein a gas mixture of hydrogen gas and a halogen containing gas such as HCl or HBr or HF is used to enhance the cleaning process, assuming hydrogen is Gas-A and halogen-containing gas is Gas-B (col.8, lines 11-19). Moslehi also teaches that some of the gases can be introduced in the downstream of the plasma as non-plasma state into the process chamber, assuming Gas-D (col.5, lines 45-55 and col.11, lines 37-44).

As to the reference of 9 and 11, Moslehi teaches HF and dichlorosilane are introduced as a process gas (col.8, lines 11-19 and col.9, lines 1-5 ).

As to claim 10, Moslehi teaches that it is known to use carbon-containing gas such as  $\text{CF}_4$ , which is equivalent to a fluorine containing gas  $\text{NF}_3$  are used for cleaning silicon surface and native oxide removal (col.4, lines 31-36). As to claims 21 and 22, Moslehi inherently teaches that the method provides no physical damage and also prevents undesirable influence of a reactive species from the plasma source because the

Application/Control Number: 09/328,939

Art Unit: 1746

additive gases do not significantly affect the removal process and advantageously enhance the removal of contaminants from the wafer surface (col.10, lines 59-66).

***Response to Amendment***

4. The amendment filed 7/16/01 is sufficient to overcome the objection to the specification. The 35 USC 112, first paragraph rejection of claim 8 is withdrawn upon canceling the claim 8. The amendment is sufficient to overcome the 35 USC 112, second paragraph rejection to claims 1-11. So, the rejection is withdrawn. The double patenting rejection between claims 6 and 7 is also withdrawn upon canceling the claim 7.

It is noted that in the marked-up version, the changes made to claims 1-3 are not shown, whereas claim 4 shows some changes. It is also noted that there are some changes made to claim 5 (twice) and claim 8 still stands there, whereas applicants stated that claim 8 is canceled (see pages 2 and 6 of the amendment filed 7/16/01). According to the amendment filed claims 4,7,8 and 12-20 are cancelled. Appropriate correction is required.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shamim Ahmed whose telephone number is (703) 305-1929. The examiner can normally be reached on M-Thu (7:00-5:30) Every Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on (703) 308-4333. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-

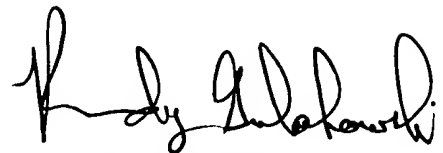
Application/Control Number: 09/328,939

Art Unit: 1746

305-7719 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

SA  
September 27, 2001

A handwritten signature in black ink, appearing to read "Randy Gulakowski". The signature is fluid and cursive, with the first name "Randy" and last name "Gulakowski" clearly distinguishable.

RANDY GULAKOWSKI  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700